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ABSTRACT

This study focused on using the concept of instructional designs, or the interactive patterns of teacher and student behaviors in educational settings, to describe and classify the instructional strategies of effective elementary school teachers. Another focus of the study was to determine which instructional designs were associated with specific characteristics of effective teachers. The Instructional Designs Taxonomy (IDT) was developed to observe and categorize classroom instructional activities as 10 macro and 25 micro instructional design elements. The teachers also responded to a Teacher Self-Checklist, designed to discriminate the specific research characteristics of each effective elementary teacher. Forty-one teachers, kindergarten through fifth grade, from rural elementary schools in east central Kansas, participated in the study. Results indicated that many effective teachers shared similar characteristics and priorities in teaching and that effective teachers also regularly used a wide variety of instructional designs depending upon the situation. Appendices, which make up the major portion of the document, include the IDT, the Teacher Self-Checklist, summary of responses to the checklist, summary of observed instructional designs, and letters and forms used in the observation and analysis. (CB)

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ED282846

AN ANALYSIS OF INSTRUCTIONAL DESIGNS OF EFFECTIVE ELEMENTARY TEACHERS

Final Report
May, 1987

College of Education
Emporia State University
Emporia, Kansas

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INTRODUCTION

It has been common practice in educational research to define effective classrooms and teachers according to research characteristics based on classroom and instructional organization, management, theory and method. Little attention has been given to identifying the instructional designs of effective elementary teachers and determining the relationship, if any, between specific instructional designs and specific characteristics of effective teachers. Typically, instruction has been researched in classrooms as discrete methods related to separate subject areas, isolated teacher behaviors or student behaviors, and associated with instructional materials.

This study focused on using the concept of instructional designs, or the interactive patterns of teacher and student behaviors in educational settings, to describe and classify the instructional strategies of effective elementary teachers. The resulting description and classification scheme of the instructional designs of effective elementary teachers will serve to guide other practicing elementary teachers in understanding, communicating, and improving their own instructional designs and delivery of instruction. Another focus of the study was to determine which instructional designs are associated with specific characteristics of effective teachers. Preservice and inservice educators dealing with instructional improvements will benefit by knowing which instructional designs promote specific characteristics of effectiveness, i.e., which design promotes guiding and probing questions, encourages positive student behaviors, or increases student on-task behaviors? Finally, are certain instructional designs common to specific elementary grades?

WHY AN INSTRUCTIONAL DESIGNS FOCUS?

The concept of basic instructional designs as related to classroom instruction was developed by Sequel, Baldridge, Christensen, and Kessler (1978). Based on field psychology (Lewin, 1951), instruction was conceptualized as consisting of a series of behavior settings or as action systems with appropriate behaviors, language, objects, roles, and use of time and space. Typical behavior settings in the classroom are task settings, testing, and monitoring activities. The researchers identified ten behavior settings or basic instructional designs. From a universe of basic instructional designs, the Instructional Designs Taxonomy, IDT, (Appendix A) emerged. The IDT categorized classroom instructional activities as ten macro and twenty-five micro instructional design elements. The macro and micro design elements were verified in a variety of subject matter contexts and were evident in a wide array of instructional activities. The IDT approach was unlike previous research which focused either on discrete instructional elements or on subject matter fields. Previous attempts to study integrated approaches concentrated either on teaching behaviors, as in teaching models, or on learning behaviors, as in learning styles. The IDT was novel in that it focused attention on the behavioral interaction between the teacher and the learner rather than strictly on the teacher's or the student's behavior. The IDT was field-tested and proved to be a viable instrument for classroom observation of instructional designs.

The Instructional Designs Tally Sheet was constructed from the IDT to identify and record the proportion of observations of each macro and micro instructional design. Each tally sheet spans an hour, broken down into three

minute intervals. The consistency and stability of the Tally Sheet was originally tested in 1978 and in subsequent research has proven to accurately record the frequency of the macro and micro instructional designs.

WHAT DO EFFECTIVE TEACHERS REALLY DO DURING INSTRUCTION?

As a result of the "Effective Schools Movement" (Edmonds, 1979; Hager and Scarr, 1983; Murnane, 1980), specific characteristics of effective teachers have been identified. The most important of these teacher characteristics include teaching behaviors related to classroom organization, management, instruction, and expectations. In addition, learning-related issues, such as increased time-on-task, student engagement, student success rates, academic learning time, achievement, and motivation are associated with effective teachers (Berliner, 1979; Bloom, 1976; Fisher, et al., 1978).

Elementary classroom researchers have isolated several instructional strategies used by effective teachers. These strategies are linked to certain instructional models based on the principles of direct instruction (Rosenshine, 1979), teacher-directed instruction (Ramey, 1982; Medley, 1977), and active teaching (Good, 1981). Research has documented that effective elementary teachers make frequent use of the inherent components of instructional models which focus on academic learning time (Berliner, 1979), mastery learning (Bloom, 1976), and diagnosis/prescription (Hunter, 1979). Major studies of effective teachers (Rosenshine, 1982; Good and Grouws, 1979) have identified instructional functions used by teachers regardless of the instructional models the effective teachers tended to follow. These functions

included daily review, presentation of new content or skills, guided student practice, feedback, reteaching, and independent practice. Also, researchers have associated immediate and frequent student feedback (Bloom, 1974; Berliner, 1979; Cohen 1981), close monitoring of student performance (Berliner, 1979; Medley, 1977), and student team learning approaches (Slavin, 1980) with the instructional functions of effective teachers.

Numerous research studies have established instructional criteria that distinguish effective teachers from less effective teachers. Summarizing the studies, effective teachers:

-- are well organized and prevent management and instructional problems from occurring.

-- have more time for classroom academic tasks because classroom routines have been minimized.

-- tend to teach the class as a whole or in large groups.

-- do not grade papers during class.

-- give a minimum of independent seat work.

-- emphasize academic achievement and expect all students will achieve.

-- select and direct classroom activities.

-- make sure that students master one unit or lesson before moving on to the next.

-- involve all students in learning activities whenever possible.

-- assign tasks for which students have a high likelihood of success.

-- are knowledgeable in the curricular areas they are responsible to teach.

-- have appropriate presentation skills to explain, demonstrate, and discuss.

-- monitor student progress by asking questions and circulating around the room.

-- give adequate feedback so students know what they have learned and what skills need to be learned.

-- find ways to get students to cooperate with one another and take responsibility for their own work.

-- direct questions to specific students rather than to those who volunteer.

-- use guiding and probing questions when students don't know the answers.

-- encourage positive student behaviors and manage negative behaviors.

-- do not permit interruptions of instructional activities by students or others.

Due to the proliferation of literature on effective teachers and teaching, elementary teachers have unconsciously assimilated the common characteristics of effectiveness. Certain instructional designs have been linked with effective instruction, but in a prescriptive sense. For example, if a teacher wants to be effective, he/she should adhere to the models of direct instruction, active teaching, or mastery learning. This study took an alternate view in suggesting that elementary teachers already use a variety of effective instructional strategies inherent in instructional designs. Instructional designs should be diagnosed rather than prescribed for effective teachers and effective instruction. Therefore, the study identified the instructional designs used by effective elementary teachers to add to the existing body of research on the key instructional characteristics of effective teachers.

STUDY DESCRIPTION

Subjects for the study were forty-one teachers, kindergarten through fifth grade, from the seven elementary schools in a rural community in east central Kansas. Each of the elementary building principals was instructed to select

an effective teacher at each grade level in his/her school. All the elementary schools had participated in an intensive Effective Schools Program during the 1985-1986 school year and all the administrators and teachers were assumed to be knowledgeable regarding the research characteristics of effective elementary teachers.

The Teacher Self-Checklist (Appendix B) was designed to discriminate the specific research characteristics of each of the effective elementary teachers. The eighteen statements on the Self-Checklist corresponded to the general research findings in the literature on the characteristics of effective teachers. Each participating teacher completed the Checklist during an orientation meeting at each elementary school prior to the initiation of the classroom observations. Teachers, rather than the building principals or the observers, completed the Checklists because the researchers felt that each teacher could best identify his/her own characteristics.

For each of the 18 statements on the Teacher Self-Checklist, the total number of elementary teachers responding to each item was calculated across all grade levels, kindergarten through fifth, and for each grade level (Appendix C). Also, an average response rate was calculated for all the Checklists by each grade level.

Each of the 41 elementary classrooms was observed for a total of two hours on two different days with no more than two weeks between observations. For each classroom, one morning and one afternoon observational session was scheduled. Subject areas, instructional activities, and grade levels were not considerations in scheduling individual classroom observations. The only criterion was that the observation be during an hour block of time when each participating elementary teacher was responsible for delivering the classroom

instruction related to an academic lesson. Teachers were informed during the orientation meetings that the observational periods should reflect lessons or instruction typical of their classrooms.

Three observers were trained in identification of the instructional designs and in recording the frequency of the observed designs using the Instructional Designs Tally Sheet. Observer training was completed in seven hours and consisted of observing video tapes for the accurate identification and recording of the macro and micro designs of the Instructional Designs Taxonomy. Inter-rater reliability was .89 at the conclusion of training.

For each macro and micro instructional design on the Instructional Designs Observation Form (Appendix I), frequency counts were tabulated. Appendix D summarizes the percentage of time by grade level and across all grade levels that the macro and micro instructional designs were recorded. The observed micro designs were rank ordered by grade level according to their frequency of use (Appendix E). Correlation coefficients were determined for the scores on the Teacher Self-Checklist and the frequencies of each macro instructional design. No significant correlations at the .05 level resulted between the statements on the Teacher Self-Checklist and the observed designs from the Instructional Designs Observation Form because of the number of elementary teachers involved in the study. Factor analysis would also have warranted a larger sample size than involved in the study, i.e., 41 classrooms.

FINDINGS

Results of the study are summarized by 1) the responses to the Teacher Self-Checklist, 2) the observed micro and macro instructional designs, and 3) the relationships between the Teacher Self-Checklist and the observed

instructional designs. The following discussion will highlight the findings of these three aspects of the study.

Responses to the Teacher Self-Checklist

Perusal of the "Summary of Responses to Teacher Self-Checklist" (Appendix C) reveals that most teachers (90%) across all six grade levels indicated that the checklist items were characteristic of their teaching. This is not surprising when one considers the teachers had extensive exposure to the applications of effective schools research and the Checklist was a self-report instrument.

Further study of the overall responses to the Teacher Self-Checklist revealed that across all grades fewest teachers (43%) marked the item: I make sure that students master one unit before moving on to the next. This was of interest because it goes against the grain of what has been suggested by the effective schools research. The low percentage of responses could be attributed to different interpretations of the statement by the teachers. The trend in responses from the kindergarten teachers (63%) to the fifth grade teachers (17%) suggests that the practice of requiring all students to master a unit of material may be unrealistic.

Three other items that teachers across all grades ranked in a noteworthy manner were: I do not permit interruptions of instructional activities by students or others (60%), I tend to teach the class as a whole or in large groups and give minimal independent seat work (63%), and I do not grade papers during class (58%). All three items have been strongly encouraged in the literature as distinct examples of effective teaching strategies. The fact that the elementary teachers in the study group did not check these items a high percentage of the time caused the researchers to question the accuracy of these items as descriptors of effective teaching. It is also likely that

these items were interpreted differently among the teachers filling out the checklists.

Observed Micro and Macro Instructional Designs

The most notable finding of the observed instructioal designs (Appendix D) was the primary and secondary instructional designs observed across the grade levels. As Appendix D indicates, "setting a task" and "telling" were the two most frequently observed macro designs. Previous research indicates that these are designs that are inherent in teaching. There was a slight increase in the amount of time teachers spent in "telling" from grade one (16%) through grade five (20%). One explanation might be that as subject matter becomes more complex as grade levels advance, teachers spend more time in describing, informing, explaining, and other "telling" type activities.

A conclusion that can be drawn from the analysis of the rank order of the observed micro instructional designs by grade levels (Appendix E) is that effective teachers use a wide variety of instructional designs. No one micro design was observed more than 20 percent of the time. Elementary teachers appear to employ a vast array of instructional designs when teaching. Therefore, it was not uncommon to code a teacher engaged in several different instructional designs during each three minute interval making up the observational period.

Relationship Between the Teacher Self-Checklist and the Observed Instructional Designs

A third aspect of the study focused on the congruencies between the perceptions teachers had of their own teaching (responses on the Teacher Self-Checklist) and the perceptions the observers derived from the observations of classrooms. An item that raised questions was the statement

on the Checklist: I monitor all student progress by asking qeustions and circulating around the room. All teachers marked this item as being characteristic of their teaching, but "monitoring" was not observed as a frequently occurring micro design. Reasons for this discrepancy include: teacher perceptions of their own teaching and those of outside observers may differ and monitoring may not have been frequently observed because elementary teachers typically do not use monitoring during the school day. Also, some teachers did indicate during the follow-up school visits that they planned lessons for the observations that did not require monitoring.

Teacher Responses to the Study

A final component of the study was the teacher post-questionnare (Appendix P) distributed during the follow-up school visits. The intent of the questionnaires was to gather reactions from teachers who participated in the study. Appendix R provides a summary of comments from the open-ended items on the questionnaires. Half of the elementary teachers (51%) completed the questionnaires which were optional. The percentage of responses for the items were mostly on the negative side, but the comments (Appendix R) offered clarifications of the negative responses. The suggested implications for improvements in the study incorporate the responses and comments from the questionnaires as well as teachers comments during the follow-up school visits.

IMPLICATIONS AND RECOMMENDATIONS

As a result of the study of the instructional designs of effective elementary teachers, the following implications and recommendations are suggested:

- The Teacher Self-Checklist should be revised so that all terms are operationally defined. A response continuum might yield more delineations between the instructional designs categories.
- The study should be conducted in districts not previously involved in an effective schools program.
- The teacher sample size should be enlarged to permit more sophisticated statistical analysis.
- The observers should collect data for an entire day in each classroom.
- The observers should code the content areas for each observed micro and macro design.
- The data should be analyzed across content areas in addition to grade levels.
- The differences between teacher perceptions and observed data should be investigated.
- The findings that seem to "go against the grain" of the effective schools research should be further explored.

APPENDICES

APPENDIX A

Instructional Designs Taxonomy

IDT

Instructional Designs Taxonomy

(IDT)

The Instructional Designs Taxonomy consists of ten macro instructional designs and 25 related micro instructional designs. The following list of the instructional designs includes: (1) the name of each macro design and the name of the micro designs appropriate to each macro design, (2) a descriptive statement for each macro design, (3) a descriptive statement for each micro, and (4) a description of the teacher's role and the student's role for each macro design and its corresponding micro designs. Three of the macro designs do not have any related micro designs.

Macro Design	Micro Design(s)
I. SETTING A TASK Occurs when the teacher makes a demand for a product or a behavior. Ranges on a continuum from a few requirements, limits and vague specifications, to many requirements, limits and exact specifications. Teacher's role: task setter; makes demand(s) and assigns the task(s) Student's role: task doer; complies with the task(s) and/or the demand(s)	A. EXACT PRODUCT Occurs when the teacher makes a demand for an exact product with set limits and specifications. There is no allowance for student interpretation. The teacher may provide the materials. 1. The teacher asks a student to go the board and write "bake" on the board as the teacher spells the word 2. The teacher gives the students a model of a pumpkin and precut materials to make a pumpkin copying the model B. PRODUCT AND VARIATION Occurs when the teacher makes a demand for a product with unstated specifications or with arbitrary requirements and limits. The teacher may provide motivation and offer the student a range or indeterminate products from which to select. Students are allowed to be creative with their final products. 1. The teacher tells the students to turn in a theme tomorrow (product with unstated specifications) 2. The teacher instructs the class to make a collage using one particular odd-shaped piece in

Macro Design | Micro Design(s)

the design (product with arbitrary requirements and limits)

3. The teacher has the students write a story about the leaf walk they took (product and motivation)

4. The students listen to a piece of music and must react creatively by choosing to write a story or poem, draw a picture or do creative dramatics (motivation and range of products from which to select)

C. BEHAVIOR

Occurs when the teacher makes a demand for a specific behavior or conduct with requirements and limits.

1. Students are instructed to take out their math books and a piece of paper and open to a particular page

2. Students are to practice math flash cards with each other and are told to work at their desks and whisper

3. The teacher asks a student to read out loud a sentence on the board

D. MATERIALS AND INDETERMINATE PRODUCT

Occurs when the teacher provides the students with materials and students can create their own products.

1. The students are given scrap materials and instructed to make a collage with the materials

2. The teacher gives each student a set of story starters and the student must write a story using the set

E. SELF-CORRECTING MATERIAL

Occurs when the teacher furnishes the student with manipulative materials whose structure provides built-in information and reinforces only correct concepts.

Macro Design	Micro Design(s)
	1. Students are given Cuisenaire rods to work out math concepts
	2. Students work with Words-in-Color which unite phoneme with color, then color with grapheme
	F. PRODUCT AS PART OF A WHOLE
	Occurs when the teacher makes a demand for a specific or a non-specific product which is one part of a whole product.
	1. Each student is told to create a spring flower for a spring bulletin board
	2. Each student is asked to contribute one event to an established time line of class events
	G. PRODUCT AS PART OF A CLASSIFICATION SCHEME
	Occurs when the teacher makes a demand that a student classify and/or arrange according to some system or principle. There may be student interpretation in creating the final product, but only no correct way to classify and/or arrange the parts of the final product.
	1. The student collects bugs and must classify them on a chart
	2. The students make drawings of various foods and assemble them in a notebook according to the four basic food groups
II. STAGE MANAGING	A. MONITOR
Occurs when the teacher manages or directs individual student performances or group student performances. The teacher supports individual students in their roles and assigns the roles, invokes rules, settles disputes, arranges turns, assures safety, controls pacing, and protects property.	Occurs when the teacher keeps the students on task, checks to make sure the students are busy, and prevents practice of error when students are working on identical tasks or on varied individual tasks.
	1. The teacher walks around the room to check on students as they complete workbook assignments

Macro Design	Micro Design(s)
Teacher's role: manager, controller, guide Student's role: performer, player	2. The teacher checks on students as they work individually at interest and learning centers B. PROGRAM Occurs when the teacher manages serial performances, miniaturizations, and dramatizations. 1. serial performance - "round robin" oral reading 2. miniaturization - cultural real-life activities carried out on a small scale in the classroom, i.e., playing store or role-playing court 3. dramatization - the students put on a puppet play acting out one of the stories in their readers C. GAME Occurs when the teacher coaches, referees and arbitrates academic or social games and sports. 1. The student(s) play spelling baseball in the classroom 2. The students play kick-ball on the playground
III. TESTING Occurs when the teacher judges the adequacy of a product, response or performance elicited from students or an individual student. The teacher expects one correct response, product or performance as measured by the teacher's criteria. The testing may be oral, written, or behavioral and on a one-to-one basis or with the students serving as an audience. Also the testing may provide immediate or delayed feedback. Teacher's role: tester, judge of response, product or performance as correct or incorrect	A. ORAL IMMEDIATE Occurs when the teacher judges the oral responses of the student(s) immediately as correct or incorrect. 1. The teacher asks student questions about a story 2. The teacher holds up flash cards and asks students to respond with correct answers. B. WRITTEN IMMEDIATE Occurs when the teacher presents the student(s) with a form of written task or test which is corrected immediately after completion.

Macro Design	Micro Design(s)
Student's role: test-taker; attempts to provide the correct response, product or performance	1. The teacher assigns a workbook page and corrects it immediately 2. The teacher gives the entire class a spelling test and corrects each test immediately afterwards
	C. PERFORMANCE IMMEDIATE Occurs when the teacher presents the student(s) with a performance task and judges the performance immediately. 1. The teacher assigns each student a science demonstration and comments on each demonstration as it's being done 2. The teacher asks the students to show how to correctly line-up; reprimands and/or praise immediately follows
	D. WRITTEN DELAYED Occurs when the teacher has the student(s) complete a form of written test or task which is later returned with marks or comments. 1. The teacher assigns a story to write; the story is collected and returned to the students a time later with corrections and is accompanied by oral teacher's remarks as the stories are returned 2. The teacher gives the entire class a math test, then collects the test, grades, and returns it the following day
IV. TELLING Occurs when the teacher soliloquizes or speaks at length without interruption in the presence of students. Through the teacher's talk, he/she displays knowledge, opinions, or feelings verbally to students. Teacher's role: talker	A. INFORMATION Occurs when the teacher soliloquizes at length without interruptions to inform students, explain something, or describe an event, concept, place skill, etc. 1. The teacher describes and informs students of the Civil War

Macro Design	Micro Design(s)
Student's role: listener	2. The teacher recounts a recent vacation to the Grand Canyon
	B. ADMONISH Occurs when the teacher used a rhetorical question or statements to make a point. Usually such questions or statements are disciplinary in nature. 1. The teacher asks "Will you ever learn to listen for directions?" 2. The teacher states "This is the time when you should be reading a book."
	C. DIRECTIONS Occurs when the teacher tells how to do a specific thing by relating in order the various procedures or the instructions for doing, operating, using, preparing, etc. 1. The teacher explicitly tells how to write a correct book report 2. The teacher explains in detail the directions for completing a workbook page
V. INTERVIEWING Occurs when the teacher interviews or elicits speech from a student or students for purposes other than testing. Teacher's role: interviewer Student's role: talker	A. MOOD Occurs when the teacher interviews in order to set the classroom mood, get the students' attention or create motivation. 1. The teacher asks the students "What do you know about the sun?" when introducing a unit on the solar system 2. The teacher asks students "Who wants to tell me about their vacation?"
	B. INQUIRY Occurs when the teacher asks questions in order to gain specific information from the student(s) for the purposes of assessment of learning.

Macro Design	Micro Design(s)
	1. The teacher asks a student "How would you test your idea?"
	2. The teacher asks the class "What did we learn yesterday about testing our ideas?"
	C. BRAINSTORM
	Occurs when the teacher elicits and accepts student responses without any evaluation as to their suitability. The teacher usually offers the students a challenge statement in order to evoke their responses.
	1. The teacher challenges students with "Let's see how many different color words we can list on the board!"
	2. The teacher challenges students with "How many plant names do you know?"
VI. SHOWING	A. SHOW
Occurs when the teacher directs student(s) to observe a skill, process, demonstration or exhibit performed by the teacher. The students serve as an audience and may ask explanatory questions.	Occurs when the teacher demonstrates or performs a skill or process as a model for the student(s).
Teacher's role: exhibitor, performer, displayer, demonstrator	1. The teacher demonstrates how to form a letter in cursive writing
Student's role: observer	2. The teacher shows students how to operate filmstrip projector
	B. DISPLAY
	Occurs when the teacher sets up an exhibit for student viewing.
	1. The teacher displays a parallel circuit
	2. The teacher exhibits a series of pictures dealing with a unit on weather

Macro Design	Micro Design(s)
VII. PLANNING Occurs when the teacher, the teacher and the students, or students develop a plan for doing, making or arranging Teacher's role: teacher planning - planner cooperative planning - motivator student planning - goal setter Student's role: teacher planning - conformer cooperative planning and student planning - planner and problem solver	A. TEACHER PLANNING Occurs when the teacher makes a plan or plans in the presence of students. Students have no part in contributing ideas or input for the plan(s). 1. The teacher pre-plans for a field trip 2. The teacher writes up classroom rules B. COOPERATIVE PLANNING Occurs when the teacher and the students both contribute input and develop plans. The teacher motivates the students to become part of the planning process by confronting the group with a stimulating situation which has the potential for a group solution. The students are problem solvers who anticipate possible problems, create solutions, listen to the opinions of others in the group, and react during the process of planning. 1. The teacher and students together plan a Thanksgiving pageant to be given to other classes in the school 2. The teacher and students together create a plan to discourage disruptive behavior in the classroom C. STUDENT PLANNING Occurs when the teacher states clear goals for a group of students to plan on their own. The student group plans "on their own" with minimal teacher supervision. The students in their planning propose problems and solutions, listen to the opinions of others in the group, and re-act. 1. The students generate a play from a story in their reader to be shared with the rest of the class 2. The students plan together to put together a class scrap book

Macro Design	Micro Design(s)
VIII. PARADOX Occurs when the teacher confronts the students with a phenomemon or challenges the students to figure out the inconsistency. The teacher sets the "riddle," or puzzle, responds to student guesses, and offers clues in leading the students to the solution. Teacher's role: problem setter Student's role: guesser and problem solver	1. The teacher incorrectly writes a return address on a giant envelope on the board and asks the students "Will this letter ever be returned to me?" 2. The teacher deliberately does a math problem incorrectly and asks the students if they agree with the answer
IX. RECORD KEEPER Occurs when the teacher makes and keeps records which are visible to the students. The students furnish the materials to be recorded and either the teacher of the students may do the recording. The teacher may show the students the format for their records. Teacher's role: record or guide for recording Student's role: recorder and/or supplier of material for recording	1. After checking each student's paper at the teacher's desk, the teacher records a grade in his/her class record book 2. The teacher keeps a list on the board of the number of books each student is reading and adds to the list throughout the day
X. LOGISTICS Occurs when the teacher directs the movement of students, materials or furniture within the classroom or from the classroom to another area outside of the room. Teacher's role: director Student's role: mover	1. The teacher assigns students to groups and tells each group to move to a specific part of the classroom 2. The teacher returns graded papers to the students

APPENDIX B

Teacher Self-Checklist

Teacher Self-Checklist

Grade Level _____ School _____

Please place a check (✓) in front of each of the following statements which best describes you as an elementary teacher.

1. _____ I am well organized and prevent management and instructional problems from occurring.

2. _____ Students in my class have more time on academic tasks because classroom routines do not require as much time.

3. _____ I tend to teach the class as a whole or in large groups and give minimal independent seat work.

4. _____ I emphasize academic achievement and expect that all students will achieve.

5. _____ I select and direct classroom activities.

6. _____ I make sure that students master one unit before moving on to the next.

7. _____ I involve all students in learning activities whenever possible.

8. _____ I assign tasks for which students have a high likelihood of success.

9. _____ I am knowledgeable in the curricular areas I am responsible to teach.

10. _____ I have appropriate presentation skills to explain, demonstrate, and discuss.

11. _____ I monitor student progress by asking questions and circulating around the room.

12. _____ I give adequate feedback so students know what they have learned and what they still need to learn.

13. _____ I find ways to get students to cooperate with one another and take responsibility for their work.

14. _____ I direct questions to specific students rather than to those who volunteer answers.

15. _____ I use guiding and probing questions when students don't know the answers.

16. _____ I encourage positive student behaviors and manage negative student behaviors.

17. _____ I do not grade papers during class.

18. _____ I do not permit interruptions of instructional activities by students or others.

An Analysis of Instruction Designs of Effective Elementary Teachers--Fabert & Waters, 1986-1987.

APPENDIX C

Summary of Responses to Teacher Self-Checklist

SUMMARY OF RESPONSES TO TEACHER SELF-CHECKLIST
Kindergarten - Fifth Grades
(n = 40)

Items on Self-Checklist	Grade Levels K	1	2	3	4	5	All Grades
1. I am well organized and prevent management and instructional problems from occurring.	83%	100%	86%	86%	86%	83%	86%
2. Students in my class have more time on academic tasks because classroom routines do not require as much time.	50%	71%	100%	100%	71%	100%	83%
3. I tend to teach the class as a whole or in large groups and give minimal independent seat work.	100%	57%	57%	43%	57%	83%	65%
4. I emphasize academic achievement and expect that all students will achieve.	100%	100%	100%	100%	100%	83%	98%
5. I select and direct classroom activities.	100%	100%	100%	100%	100%	100%	100%
6. I make sure that students master one unit before moving onto the next.	67%	57%	43%	29%	43%	17%	43%
7. I involve all students in learning activities whenever possible.	83%	86%	100%	100%	100%	100%	95%
8. I assign tasks for which students have a high likelihood of success.	83%	100%	86%	100%	86%	100%	93%
9. I am knowledgeable in the curricular areas I am responsible to teach.	100%	100%	86%	100%	100%	100%	98%
10. I have appropriate presentation skills to explain, demonstrate, and discuss.	83%	86%	100%	100%	86%	100%	93%
11. I monitor student progress by asking questions and circulating around the room.	100%	100%	100%	100%	100%	100%	100%
12. I give adequate feedback so students know what they have learned and what they still need to learn.	83%	86%	86%	71%	86%	100%	85%
13. I find ways to get students to cooperate with one another and take responsibility for their work.	100%	100%	86%	100%	100%	67%	93%
14. I direct questions to specific students rather than to those who volunteer answers.	50%	71%	57%	86%	100%	100%	78%
15. I use guiding and probing questions when students don't know the answers.	100%	71%	100%	100%	100%	83%	93%
16. I encourage positive student behaviors and manage negative student behaviors.	100%	86%	86%	100%	100%	100%	95%
17. I do not grade papers during class.	50%	57%	71%	86%	43%	33%	54%
18. I do not permit interruptions of instructional activities by students or others.	50%	29%	71%	86%	43%	83%	60%
Averages for all items	82%	81%	84%	88%	83%	85%	84%

APPENDIX D

Summary of Observed Instructional Designs

SUMMARY OF OBSERVED INSTRUCTIONAL DESIGNS
(n = 41)

	PRIMARY INSTRUCTIONAL DESIGN			SECONDARY INSTRUCTIONAL DESIGN		
Grade	Percentage of Time Observed	Macro	Micro	Percentage of Time Observed	Macro	Micro
K	15%	Setting a Task	Behavior	14%	Telling	Information
1	16%	Setting a Task	Behavior	11%	Testing	Oral Immediate
	16%	Telling	Information			
2	17%	Telling	Information	14%	Setting a Task	Behavior
3	19%	Telling	Information	16%	Setting a Task	Behavior
4	23%	Telling	Information	14%	Setting a Task	Behavior
5	20%	Telling	Information	13%	Setting a Task	Behavior
All Grades	17%	Telling	Information	14%	Setting a Task	Behavior

APPENDIX E

Rank Order of the Observed Micro Instructional Designs by Grade Level

RANK ORDER OF THE OBSERVED MICRO INSTRUCTIONAL DESIGNS BY GRADE LEVEL

Rank Order	Kindergarten	First	Second	Third	Fourth	Fifth
1	Behavior (.15)	Behavior Information (.16)	Information (.17)	Information (.19)	Information (.23)	Information (.20)
2	Information (.14)	Oral Immediate (.11)	Behavior (.14)	Behavior (.16)	Behavior (.14)	Behavior (.13)
3	Admonish Logistics (.11)	Admonish (.10)	Admonish (.12)	Oral-Immediate (.12)	Oral Immediate (.12)	Admonish (.10)
4	Monitor Oral Immediate (.09)	Logistics (.09)	Oral Immediate (.10)	Admonish (.11)	Monitor (.11)	Oral Immediate (.09)
5	Display (.06)	Monitor (.08)	Monitor Logistics (.08)	Monitor (.09)	Admonish (.08)	Monitor Logistics (.08)
6	Game Written Immediate (.04)	Display (.06)	Display (.06)	Logistics (.07)	Display (.06)	Written Delayed (.06)
7	Written Delayed Mood (.03)	Written Delayed (.05)	Inquiry (.05)	Written Delayed Display (.04)	Written Delayed Logistics (.05)	Mood Inquiry Display (.04)
8	Exact Product Directions (.02)	Inquiry (.04)	Written Delayed (.04)	Mood Inquiry (.03)	Mood Inquiry (.03)	Record Keeping (.03)
9	Inquiry Program Performance Immediate Show (.01)	Written Immediate Direction Mood (.03)	Game Mood (.03)	Written Immediate Show (.02)	Written Immediate Directions Record Keeping (.02)	Program Written Immediate (.02) Direct
10		Exact Product Variation Game Program Brainstorm Paradox Record Keeping (.01)	Program Written Immediate Directions Record Keeping (.02)	Product and Variation Self-Correcting Game Program Performance Immediate Directions Record Keeping (.01)	Product and Game Program Show (.01)	Exact Product Product and Variation Materials & Indi- vidual Product Game Brainstorm Teacher Planning (.01)
11			Brainstorm Show (.01)			

Note: Numbers in the parenthesis are the percentage of time each micro design was observed.

APPENDIX F

Letter of Support for the Study

From the Emporia Unified School District

USD 253

Emporia Unified School District No. 253

501 Merchant Street • Box 1008 • Emporia, Kansas 66801

Phone 316/342-4455

TO: Research and Creativity Committee Members

FROM: Kaye Tague K.T.

DATE: February 27, 1986

SUBJECT: Research Proposal

As Director of Elementary Instruction for Emporia USD #253 I support the research proposal submitted by Barbara Fabert and Scott Waters. The information gathered by observing elementary classroom teachers should be extremely beneficial in our district's long-range plans for staff development.

The initial sharing of the effective schools research has peaked the interest of our teachers and administrators, especially at the elementary level. This additional research through classroom observation will be more specific to our district and therefore should be more relevant to our staff.

KT:mb

cc Dr. Scott Waters
Dr. Barbara Fabert

APPENDIX G

Letter Sent to Each Administrator to Schedule

An Orientation Visit with the Elementary School

EMPORIA STATE UNIVERSITY
1200 COMMERCIAL EMPORIA, KANSAS 66801-5087 316/343-1200

September 2, 1986

Dear :

As the new school year starts, so do our efforts to begin our study "An Analysis of Instructional Designs of Effective Elementary Teachers" with the Emporia elementary schools. Just to refresh your memory--we will be involving seven schools and need six classrooms from each school, one at each grade level. We are seeking your assistance in providing us with the names of six teachers who would like to participate. Upon receiving the names, we will schedule a meeting during the week of September 29, 1986 with the teachers to prepare them for their involvement, answer questions, and establish observation schedules.

We have revised "The Effective Teacher Checklist" to a "Teacher Self-Checklist" as a result of feedback the elementary principals gave to Scott when they met in the spring. Each participating teacher will complete the Self-Checklist for him/herself during our initial meeting in September. We have included a copy of the Self-Checklist for your review.

We greatly appreciate your assistance in selecting participating teachers in your school. Please call Scott (Ext. 5734) or Barbara (Ext. 5833), if you have any questions or suggestions. We will be contacting you to schedule the meeting with teachers for the week of September 29th. You are invited to participate in the meeting also.

Hope the new school year got off to a smooth start.

Best regards,

Scott Waters

Best regards,

Barbara Fabert

BF:cs

Enclosures

BUSINESS • EDUCATION • LIBERAL ARTS AND SCIENCES • LIBRARY AND INFORMATION MANAGEMENT
AN EQUAL OPPORTUNITY EMPLOYER

An Analysis of Instructional Designs
of Effective Elementary Teachers Study

Interested Participants:

Name	Grade Level (one teacher per grade level, please)
1.	
2.	
3.	
4.	
5.	
6.	

Date_____

School_____

Principal Signature_____

Please return this form in the enclosed envelope by September 19, 1986.

APPENDIX H

Agenda for Orientation Visits to Schools

Orientation Visits to Schools

Fall, 1986

Agenda

I. Introductions

II. Describe Study

A. Purpose

1. Second wave of effective schools research

2. Attempting to identify the specific instructional designs of effective elementary teachers

B. Procedures

1. Take a "snapshot" of the typical elementary classroom

2. For each classroom, a one-hour observation in the morning and afternoon with not more than a week between observations

C. Teacher's role

1. Teach as usual

2. May want to introduce the observer as someone visiting the classroom to learn about that grade level

D. Instruments

1. Observational form to identify the instructional designs (completed by each observer)

2. Teacher self-checklist to identify common characteristics of effectiveness by grade levels

III. Results of the study will be shared with each building in the spring

IV. Teachers complete teacher self-checklist

APPENDIX I

Instructional Designs Observation Form

Time	Intervals	Setting a Task							Stage Manage			Testing				Telling			Inter-viewing			Show-ing		Planning						
		Ex. Prod.	Prod. & Var.	Behavior	Mat. & Ind. Prod.	Self-Corr.	Part of Whole	Class. Scheme	Game	Program	Monitor	Oral Immed.	Writ. Immed.	Perf. Immed.	Writ. Delay	Inform	Admonish	Direct	Mood	Inquiry	Brainstorm	Show	Display	T. Plans	Coop. Pl.	St. Plans	Paradox	Record Keeping	Logistics	
	00																												
	03																												
	06																												
	09																												
	12																												
	15																												
	18																												
	21																												
	24																												
	27																												
	30																												
	33																												
	36																												
	39																												
	42																												
	45																												
	48																												
	51																												
	54																												
	57																												
	60																												
	Total																												

Teacher Code _____ Observer _____

Grade Level _____ Lesson _____

School _____ Date _____

Comments:

APPENDIX J

Common Macro Instructional Designs

Across All Elementary Grades

COMMON MACRO INSTRUCTIONAL DESIGNS
OBSERVED ACROSS ALL ELEMENTARY GRADES

(Ranked by Frequency)

1. Telling
2. Setting A Task
3. Telling / Testing
4. Telling / Testing / Stage Managing
5. Stage Managing
6. Showing / Testing
7. Testing / Interviewing
8. Interviewing
9. Testing

APPENDIX K

Micro Instructional Designs Not Observed

MICRO INSTRUCTIONAL DESIGNS NOT OBSERVED

- Materials and Indeterminate Product
- Self-Correcting Materials Only
- Product As Part Of A Whole
- Product As Part Of A Classification Scheme
- Performance Immediate
- Brainstorm
- Teacher Planning
- Cooperative Planning
- Student Planning
- Paradox

APPENDIX L

Letter Sent to Administrators to Schedule Follow-Up Visits with the Elementary Schools

EMPORIA STATE UNIVERSITY
1200 COMMERCIAL EMPORIA KANSAS 66801-5087 316 343-1200
JONES INSTITUTE FOR EDUCATIONAL EXCELLENCE EXTENSION 5372
COLLEGE OF EDUCATION

April 2, 1987

Mike Kasnic
Butcher Children's School
Emporia State University
1200 Commercial
Emporia, KS 66801

Dear Mike:

Thank you for participating in An Analysis of Instructional Designs of Effective Elementary Teachers. We feel that sharing the results of the study will be beneficial to you and your staff.

We have scheduled an information session at your school for Tuesday, April 21 at 7:45 a.m. in the Conference Room. The following teachers participated in the study and can be invited to attend the session:

Sue Applegate
Margaret Davidson
Charisse Goza
Gay Hendrickson
Kelly Irwin
Trish Kennedy

If you have any questions, please call 343-1200, Ext. 5833.

Sincerely,

Barbara Fabert

Scott Waters

Michele Bramley

BF:cs

APPENDIX M

Schedule of Follow-Up School Visits

Follow-Up Study
School Visits
Spring, 1987

SCHOOL	PRINCIPAL	ADDRESS	DATE	PLACE	TIME	TEACHERS IN STUDY
Butcher 343-1200 ext. 5301	Mike Kasnic	ESU 1200 Commercial	Tuesday April 21	Conf. Rm.	7:45 am	Sue Applegate Margaret Davidson Charisse Goza Gay Hendrickson Kelly Irwin Trish Kennedy
Logan Ave. 342-5982	Bill Warner	521 S. East	Monday April 13	Library	8:00 am	Charolotte Whitehurst Linda Frisch Deb Downs Joan Hulse Mary Jo Dorathy LaDell Lang Lori Tabares
Mary Herbert 342-6016	Gerald Duncan	1700 W. 7th	Thursday April 9	Library	8:00 am	Mary Melhorn Ruth Ann Cropp Sue Wilson Maratha Shook Barbara Lyons Kay Calvert
Maynard 342-6042	Brian Frisch	19 Constitution	Tuesday April 7	Library	8:00am	Emily Chavez Terry McAlister Susan Hernandez Ruth Bloxom
Village 342-5922	Dr. Ed Garhart	2302 W. 15th	Monday April 6	Office	8:00 am	Chris Warner Connie Jameson Lynne Resch Joyce Hurt Rob Ferree Jean Shirk Louise Wright
Walnut 342-6077	Mrs. K. Vidal	801 Grove	Monday April 20	Library	8:00 am	Gloria Shirley Allein Davis Jeannene Wittmer Evan Hartley Carlene Bedner
W.A. White 342-6055	Carolyn Kindrick	902 Exchange	Tuesday April 14	Library	8:00 am	Lynn Lang Sara Carlson Virginia Boettcher Mary Chapman Gayle Ames Marilyn Dalton

APPENDIX N

Agenda for Follow-Up Visits

Follow-Up School Visits

Spring, 1987

Agenda

I. Overview Study

II. Teacher Self-Checklist

A. Distribute summary of responses

B. Discuss chart

III. Instructional Designs Observations

A. Distribute sheet of summary of collected data from observations

B. Discuss chart

IV. Relationship between the Checklist and the Designs

V. What does this mean for elementary teachers?

A. The role of the elementary teacher hasn't changed much

B. Making sure students master one unit before moving onto the next

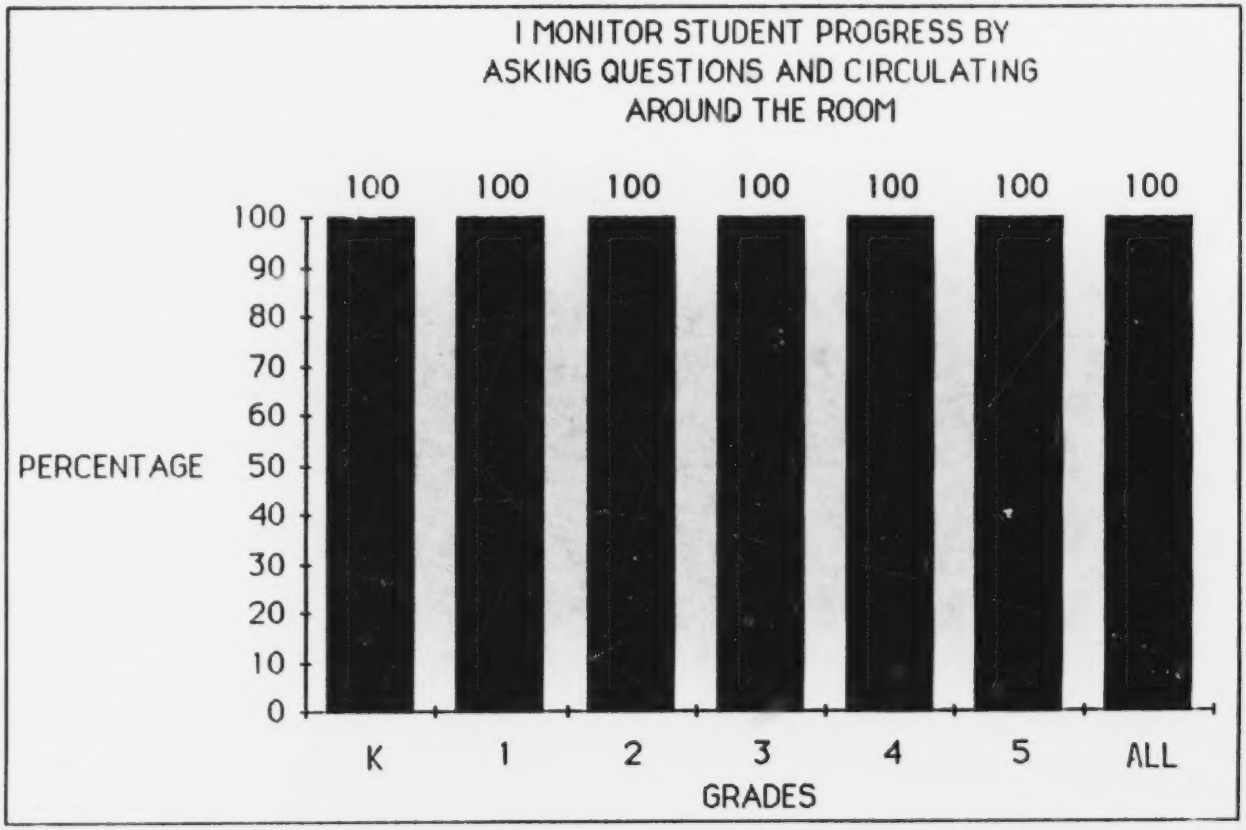
C. Difference between perceptions of teachers and observations

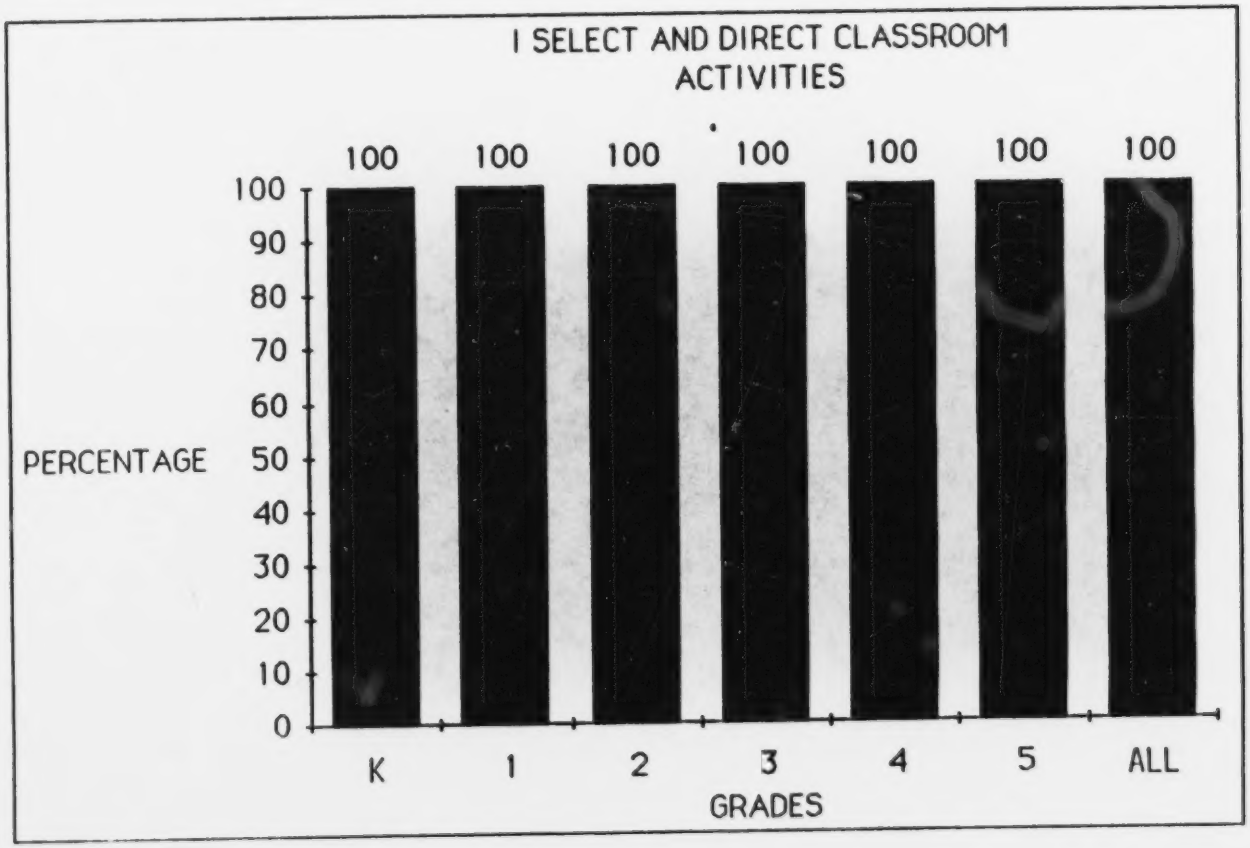
VI. Teachers complete questionnaire

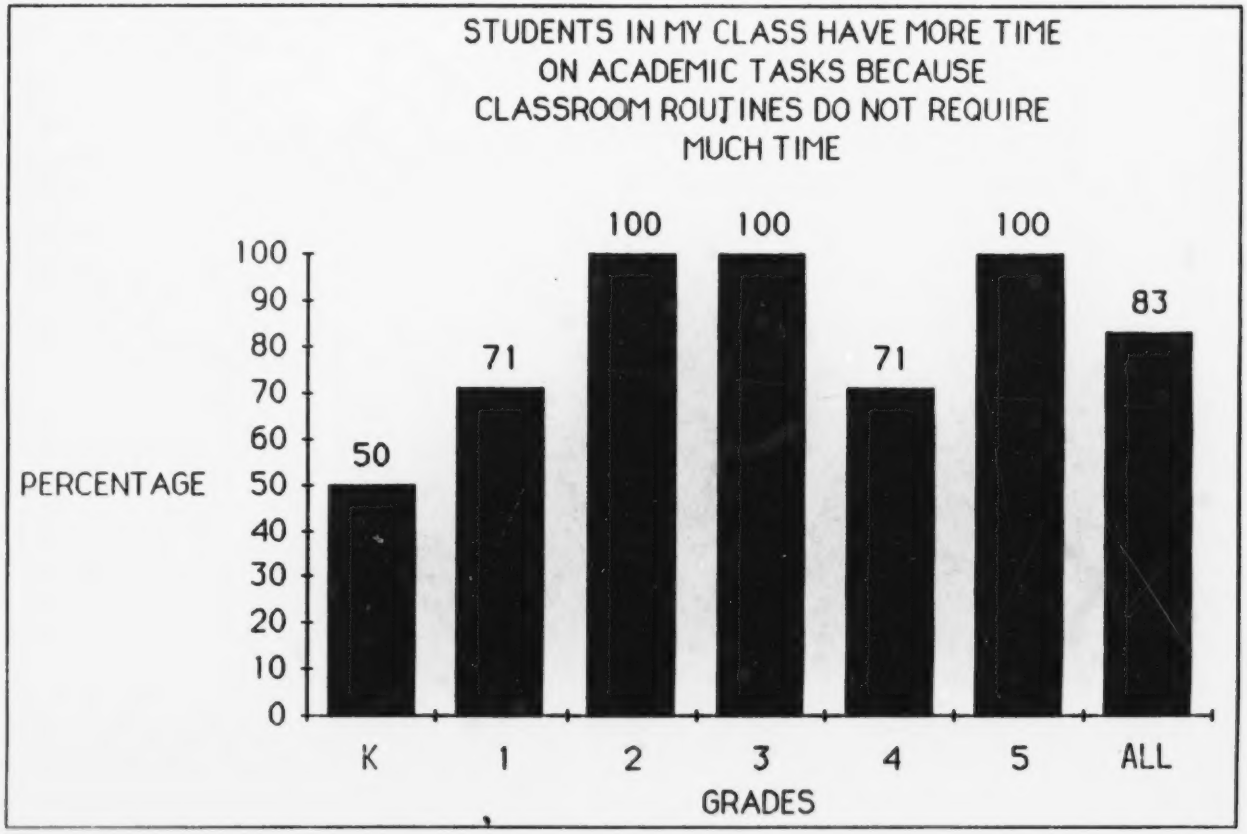
APPENDIX O

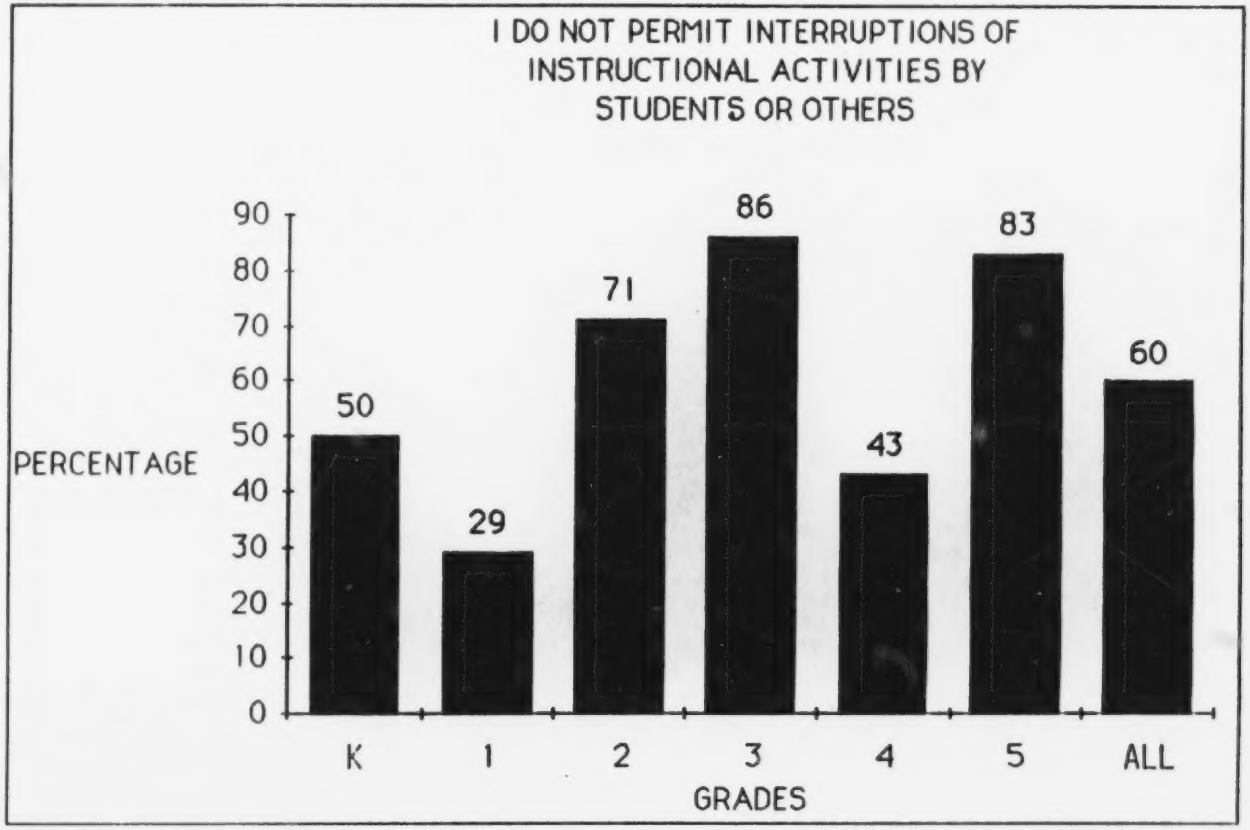
Charts of Summaries of Teacher Checklist Responses

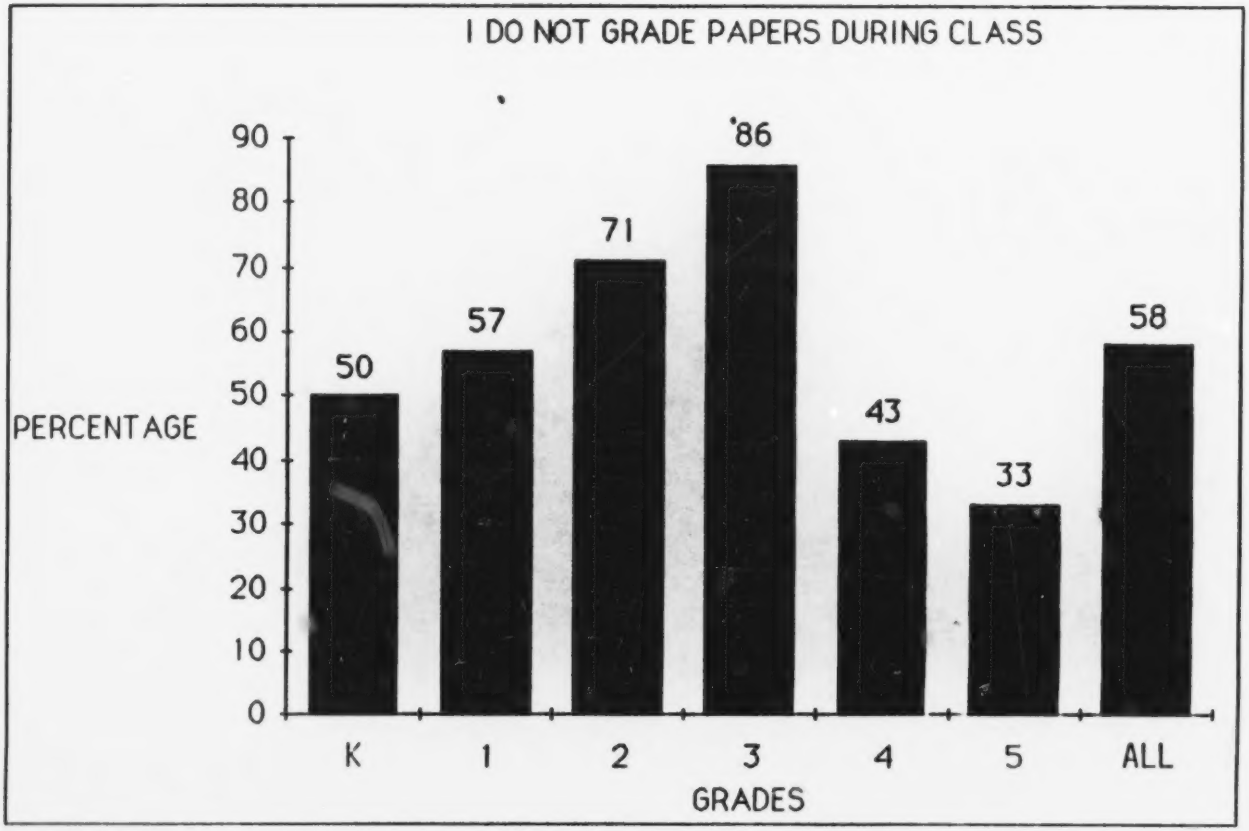
Shared During Follow-Up School Visits

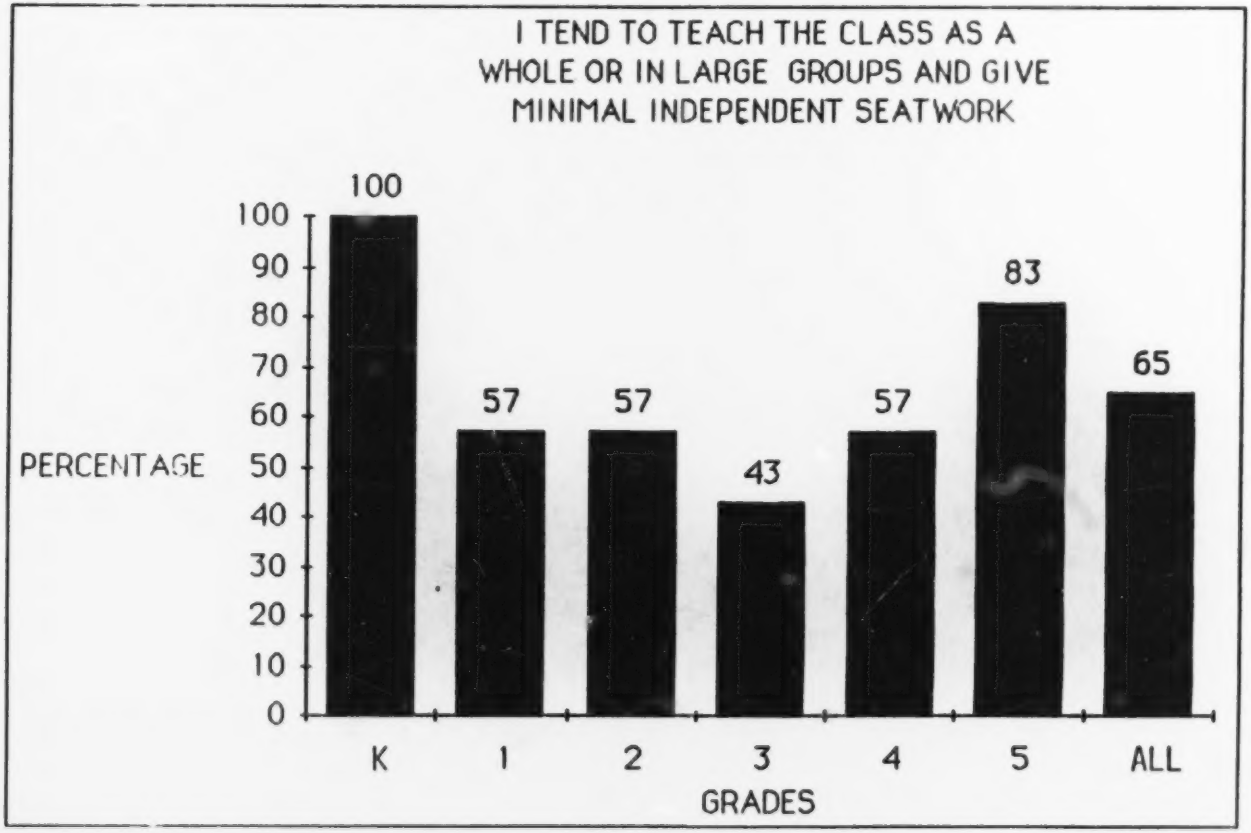

I MONITOR STUDENT PROGRESS BY
ASKING QUESTIONS AND CIRCULATING
AROUND THE ROOM
100
100
100
100
100
100
100
PERCENTAGE
100
90
80
70
60
50
40
30
20
10
0
K
1
2
3
4
5
ALL
GRADES

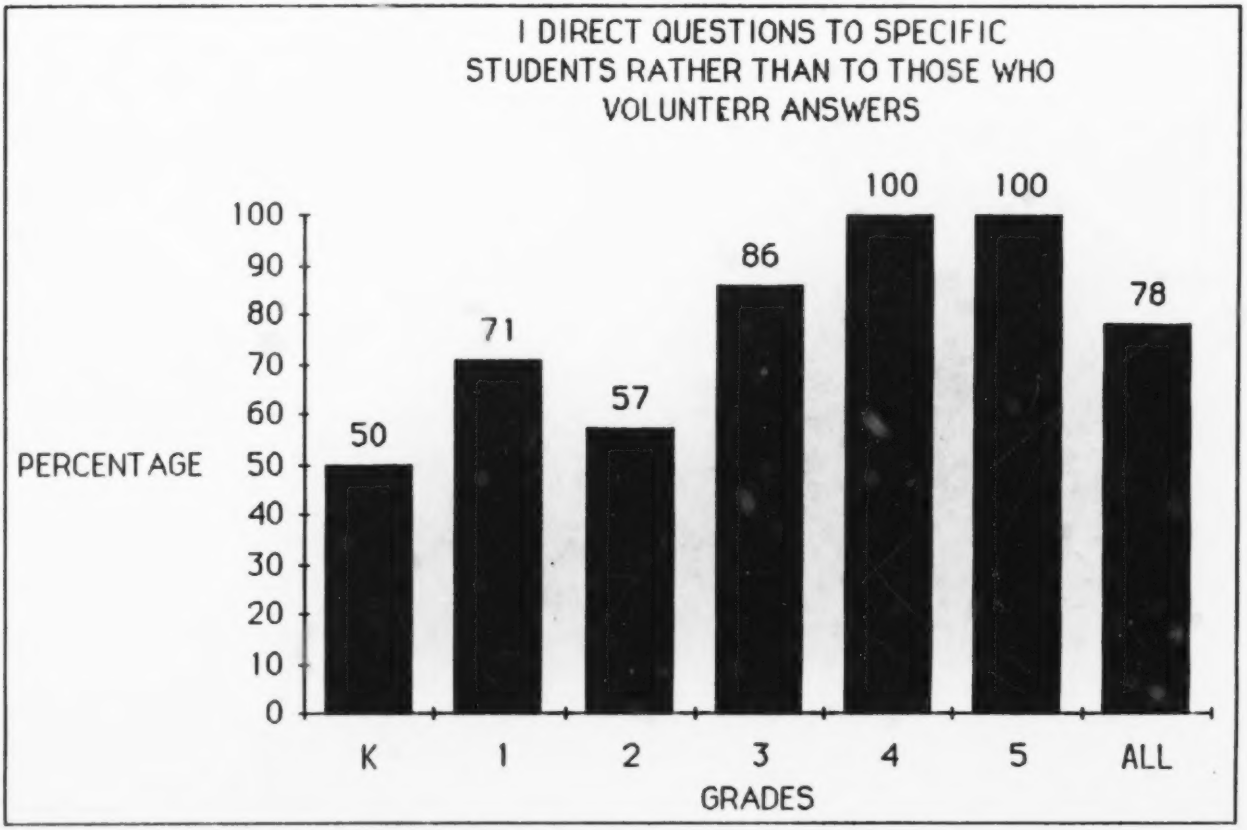

I SELECT AND DIRECT CLASSROOM ACTIVITIES
100 100 100 100 100 100 100
100
90
80
70
60
50
40
30
20
10
0
PERCENTAGE
K 1 2 3 4 5 ALL
GRADES

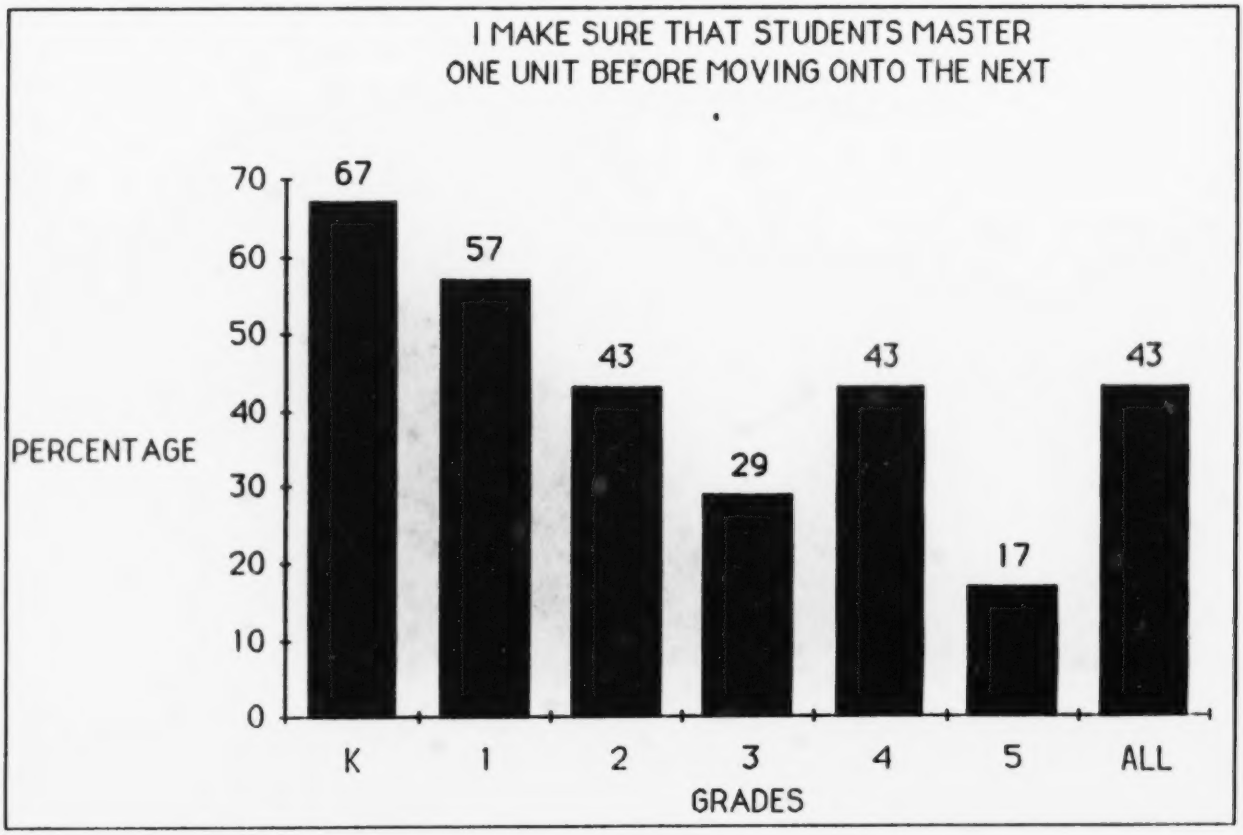

STUDENTS IN MY CLASS HAVE MORE TIME
ON ACADEMIC TASKS BECAUSE
CLASSROOM ROUTINES DO NOT REQUIRE
MUCH TIME
PERCENTAGE
100
90
80
70
60
50
40
30
20
10
0
50
71
100
100
71
100
83
K
1
2
3
4
5
ALL
GRADES


I DO NOT PERMIT INTERRUPTIONS OF
INSTRUCTIONAL ACTIVITIES BY
STUDENTS OR OTHERS
PERCENTAGE
90
80
70
60
50
40
30
20
10
0
50
29
71
86
43
83
60
K
1
2
3
4
5
ALL
GRADES


I DO NOT GRADE PAPERS DURING CLASS
PERCENTAGE
90
80
70
60
50
40
30
20
10
0
50
57
71
86
43
33
58
K
1
2
3
4
5
ALL
GRADES


I TEND TO TEACH THE CLASS AS A WHOLE OR IN LARGE GROUPS AND GIVE MINIMAL INDEPENDENT SEATWORK
PERCENTAGE
100
90
80
70
60
50
40
30
20
10
0
100
57
57
43
57
83
65
K
1
2
3
4
5
ALL
GRADES


I DIRECT QUESTIONS TO SPECIFIC STUDENTS RATHER THAN TO THOSE WHO VOLUNTERR ANSWERS
PERCENTAGE
100
90
80
70
60
50
40
30
20
10
0
50
71
57
86
100
100
78
K
1
2
3
4
5
ALL
GRADES


I MAKE SURE THAT STUDENTS MASTER
ONE UNIT BEFORE MOVING ONTO THE NEXT
PERCENTAGE
70
60
50
40
30
20
10
0
67
57
43
29
43
17
43
K
1
2
3
4
5
ALL
GRADES

APPENDIX P

Follow-Up Study Participant Questionnaire

Instructional Designs of Effective Elementary Teachers

Questionnaire
Spring, 1987

Thank you for participating in our study. By filling out this evaluation, you will help us better understand the study's implications and how it might positively influence your instruction.

Please circle either YES or NO for each of the following questions. Feel free to add any comments. DO NOT put your name on the evaluation unless you would like to be involved in a follow-up study or would like a copy of the research summary.

1. Did the information shared from this study give you ideas which might positively affect your instruction?

   Yes No Comments:

2. Do the research findings assist you in better understanding your instructional techniques?

   Yes No Comments:

3. Will the research findings assist you in improving your instruction?

   Yes No Comments:

4. Do you feel the Instructional Designs Study was objective and a reliable observiational method for describing what effective teachers do during instruction?

   Yes No Comments:

5. Would you like to be involved in a follow-up study? Yes No

6. Would you like a copy of the research summary? Yes No

If you answered Yes on Question #5 or 6, please include your name and school on the lines below:

_____

_____

APPENDIX Q

Summary of Responses to the Teacher

Post-Questionnaire

SUMMARY OF RESPONSES TO THE TEACHER
POST QUESTIONNAIRE
(n=21)

	Percentage of Responses	
	Yes	NO
1. Did the information shared from this study give you ideas which might positively affect your instruction?	33%	67%
2. Do the research findings assist you in better understanding your instructional techniques?	43%	57%
3. Will the research findings assist you in improving your instruction?	33%	67%
4. Do you feel the Instructional Designs Study was objective and a reliable observational method for describing what effective teachers do during instruction?	43%	57%
5. Would you like to be involved in a follow-up study?	43%	57%
6. Would you like a copy of the research summary?	24%	76%

APPENDIX R

Summary of Comments from The

Teacher Post-Questionnaire

SUMMARY OF COMMENTS FROM THE
TEACHER POST-QUESTIONNAIRE

1. Did the information shared from this study give you ideas which might positively affect your instruction?

   - Can't think of how it might at this point in time -- may later.
   - Certainly makes you aware of weak areas to improve.
   - It was too general. It needed to be more specific and individualized.
   - I haven't had time to read the Instructional Designs Taxonomy. It looks like it has good thoughts in it.
   - The information needs to be more specific to help me.

2. Do the research findings assist you in better understanding your instructional techniques?

   - But I need you to observe more than two hours & share your observations on my room only (not on all fifth grades you saw.)
   - Any instruction that is supported by research provides me with a better understanding.
   - I was hoping for a more personal time to share with you or at least information about just our school. By now it's almost too late in the year or too busy of time to have a personal conference.
   - I was not familiar with the new terminology.
   - The information needed to be more specific to help me.

3. Will the research findings assist you in improving your instruction?

   - I'm not sure that you showed me my weaknesses that need to be improved. Convince me you did, example, (I have more students failing in math because I don't explain the lesson first and other teachers do.) I don't feel like you saw enough ot my class to tell me my weaknesses or strengths.
   - Added awareness.
   - I didn't feel like I learned anything from all the hours and effort you put into this project so I definitely wouldn't change my instruction on just the info you shared with us.
   - Not yet, I need more information.

4. Do you feel the Instructional Designs Study was objective and a reliable observational method for describing what effective teachers do during instruction?

   - I feel more guidelines need to be given on what the questionnaire questions mean, for example, do you spend at least 50% of your time monitoring reading? Spelling? Etc.
   - As you shared with us, the sample may have been too small to generalize. Secondly, the importance of opportunity vs. actual doing.
   - Too little time, not a significant period of observation.
   - How can it be objective and reliable after only two hours of observation?
   - Too many variables and misinterpretations.

APPENDIX S

Completed Study Events

Completed Study Events

I.	Trained an Observer	A. Hired a graduate assistant	* Week of August 25, 1986	* Had a signed contract from 8-25-86 to 5-15-87
		B. Trained graduate assistant to do observations	* Week of September 30, 1986	* Obtained acceptable interrator reliability scores
II.	Prepared for the Study	A. Met with administrator and participating teachers in each elementary school	* September 23, 1986-October 7, 1986	* Conducted orientation meetings
		B. Distributed the Teacher Self-Checklists to participating teachers	* September 23, 1986-October 7, 1986	* Had completed Teacher Self-Checklists
III.	Data Collection	A. Observation by graduate assistant in all classrooms	* 15 classrooms by Nov. 1, 1986 * 15 classrooms by Dec. 1, 1986 * 12 classrooms by Jan. 9, 1987	* Completed tally sheets for observations
		B. Observation by Fabert and Waters in half of the classrooms	* 15 classrooms by Nov. 1, 1986 * 15 classrooms by Dec. 1, 1986 * 12 classrooms by Jan. 9, 1986	* Completed tally sheets for observations
IV.	Data Analysis	A. Raw data was submitted to statistical consultant	* Week of January 19, 1987	* Received computer printout from consultant
V.	Data Interpretation	A. Reviewed statistical analysis	* Week of February 2, 1987	* Interpreted final results
		B. Prepared tables and charts	* Week of February 16, 1987	* Completed tables
VI.	Disseminated results of study to participating teachers and administrators	A. Met with participating teachers and administrators	* Month of April, 1987	* Conducted Follow-Up visits
		B. Teachers completed questionnaires		* Received participant feedback
VII.	Final Study Report	A. Wrote final document	* Week of April 24, 1987	* Completed final report
VIII.	Dissemination of the results	A. Presentation at a national conference	* February 16, 1987	* Dissemination of results at the Association of Teacher Educators, Houston, Texas
		B. Presentation to ESU community	* February 26, 1987	* Emporia State University's Research Forum
		C. Submitted manuscripts for publication	* Week of June 1, 1987	* Publication in national journals